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ABSTRACT

Comparing librarianship and science in terms of their objectives and methods of study, and their objects and means of mastery, results in the conclusion that they are antithetical as knowledge systems because the substance of librarianship is instrumental to science and vice versa. The resulting differences between them may be summarized as follows: objects of study--science studies matter while librarianship studies form; method of study--the scientific method is empirical, while librarianship employs rational methods; objects of mastery--science aims at the management of matter while librarianship aims at the management of form; and means of mastery--the scientific means is form while librarianship relies on matter as a means of managing form. (Author/MER)

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THE OBJECTS AND METHODS OF STUDY

by

H. Curtis Wright

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Abstract

Librarianship and science are antithetical as knowledge systems because the substance of the former is instrumental to the latter and vice versa. This is disclosed by comparing the two systems as to (1) their objects and methods of study, and (2) their objects and means of mastery. The resulting differences between them may be summarized as follows:

1. The Object of Study.--Science studies matter (the physical realities of the universe); but the object of study in librarianship is form (the metaphysical realities of the mind).

2. The Method of Study.--The scientific method of study is empirical because its objects of study are the sensibles of physical experience; but librarianship must employ rational methods because its metaphysical objects of study are the nonsensibles of thought which lie completely beyond the physics of experience.

3. The Object of Mastery.--Science aims at the management of matter (the physical conditions of the universe); but the librarian's goal is the management of form (the metaphysical products of the mind).

4. The Means of Mastery.--Form is the scientific means of managing matter; but matter is the librarian's means of managing form.

The Two Orders of Reality

THE UNSENSED ANTIWORLD
of Metaphysical Subsistents

1. Human Intellection: the Nonphysical Operations of Mind
2. Ideas (Gr. ideai, Forms): All Meanings
   - 11. The Conceptual Realm of Generalized Meanings
     - 21. All verbal/mathematical ideas
     - 22. All propositions (laws, theories, etc.), whether mathematical/verbal, true/false, possible/impossible, etc.
   - 12. The Imagistic Realm of Particularized Meanings
     - 21. All artificial sensations (whether remembered, contrived, realistic, fanciful, etc.)
     - 22. All artificial sensa (both experiential and imaginative: your mother, the Grand Canyon, characters in fiction, mermaids, square circles, etc.)

THE SENSED WORLD
of Physical Existents

1. Human Sensory Experience and its Objects
   - 11. Sense Perception of Any Kind
     - 21. All sensations of anything in the natural order
     - 22. All activities in which live sensation is present
   - 12. Anything the Mind Can Detect By means of the Senses
     - 21. All physical objects and processes
     - 22. All space-time phenomena
2. The Only World Knowable to Science (which can investigate only physical realities)

THE OBJECTS AND METHODS OF STUDY

By H. Curtis Wright

Every discipline, whether scientific or otherwise, tends to define research as something it can manage. But research is critical inquiry of any kind into anything. It is not a specific set of procedures laid down by the strait-jacket methodists of any discipline. Nor is it the exclusive property of any group, like the literal-minded factualists of science who figure their way through life, the reflective teleologists of humanism who think everything to death, or the get-together pragmatists of social action who noodle and doodle on committees before doing anything. Research is essentially the systematic approach to serious study in any field. It occurs whenever the human mind, confronted by a problem it wants to solve, meets both a necessary and a sufficient condition: it must (1) find out, by any appropriate means, what is and is not known about the problem; and (2) make an original contribution toward a solution by studying unexplored or unresolved aspects of the problem. There can be no research if either of these conditions is not fulfilled, or if the necessary condition, which creates only the possibility of research, is mistaken for the sufficient condition, which actualizes it. This is basically the broad view of research, for both of these conditions can be met, not only in science, but in any critical discipline.[1]

Research has two dimensions which must be carefully distinguished. They are (1) its metaphysical Form, or what research is, and (2) its physical Function, or what research does. The former is essentially the

involvement of research in Plato's abstract spirit world of human thought, whereas the latter involves it in the natural order. Research thus stands with one foot on the terra firma of human experience, and the other in the quicksands of human thought. The involvement of research in these two worlds may be clarified by illuminating the relationships between the worlds themselves.

A distinction between the physics of experience and the metaphysics of intellection in man is implicit in the Greek mentality from the earliest times.[2] This distinction, which becomes fully explicit in Plato and Aristotle, continues to underlie all of Western secular thought. The Greek term for the experiential world is ta physika, the physical sensibles which constitute the whole of material reality. All other realities are ta meta ta physika, the metaphysical thinkables which lie "beyond physics" in the unsensed dominions of the mind.[3] Man is thus involved in two orders of reality, the sensed world of physical existents, or the natural order, and the unsensed antiworld of metaphysical subsistents, which exists in relation to the natural order but not within it. The sensed world subtends all aspects of human experience and its objects, including every kind of sense perception, as well as anything the mind can detect by means of the senses, or by means of artificial instruments which extend their natural powers. The unsensed antiworld, on the other hand, encompasses all aspects of human intellection, including the operations as well as the ideas of the mind, whether these are rational, nonrational, or irrational.

An existent is always a physical reality, a space-time phainomenon that can be sensed but not thought. Every subsistent, however, is a metaphysical reality, an immaterial noumenon that can be thought but not sensed.[4] Existents are objects of sensation, the items of experience

perceived through the senses. But subsistents are products of the mind, such as the elements of verbal and mathematical language--there are no points, lines, square roots, prepositions, or dangling participles in nature. The world of existents is the physical environment of the human mind, whereas the antiworld of subsistents constitutes its metaphysical store of ideas (concepts, images, judgments, beliefs, etc.), the entire universe of discourse acquired through education. Subsistents thus include the totality of meanings discovered, created, utilized, and perpetuated by human beings.

There are no natural, inherent, or necessary connections between the physics and the metaphysics of anything: no one has ever found a metaphysical reality by taking a physical reality apart. The realities of mind and matter can be related in numerous conventional ways, but their governing principles have remained distinct and mutually exclusive. There is thus an unbridgeable gulf which separates the physical experiences of the mind from its metaphysical interpretations, an epistemological chasm that human ingenuity is wholly unable to cross. This can be seen, as elsewhere, in both the physical and the biological sciences.

> Most aspects of the life process can be explained in physical terms. But the concepts of physics appear to become totally inadequate when we come to emotion, feeling and, particularly, to ... values. Between the electrical signals coming through the eye to the brain and our reaction to the vision of a tree in blossom on a fresh spring day there is a vast gap which physics shows no signs of ever being able to bridge. This is just one example of the limitations of the scientific approach. We are confronted once again with the world of thought, mind and spirit, and are back to the old conflict between [the matter-philosophy of] the Ionians and [the form-philosophy of] the Pythagoreans.... The net of measurement, with which the physicist catches his quantitative information, has a finite mesh and a great deal of what is significant in life slips through it.... It may even be that whatever it is that is peculiar to life and particular to thought lies outside the scope of physical concepts.[5]

Research partakes of the widespread, general confusion about form and function that plagues the critical endeavor in all walks of life. The form of anything is its internal logos, the nonphysical structure of intelligible relationships which determines its permanent Being. Form is thus alive to thought but dead to experience, something that answers the anatomical question: "What is it?" Form constitutes the entire content of the mind, which is a kind of metaphysical factory whose products are made of formal structure, not of material substance. There is no matter in the mind, which can manage only the production and consumption of form. The function of a thing, on the other hand, is its external ergon, the physical work it performs in human experience.[6] Function is thus alive to experience but dead to thought, something that answers physiological questions, such as "What is it for?" or "How does it work?" or "What doesit do?" Of course, there are formal functions, as in the study of language or mathematics, which refer to the work of thought. But even here the principle is the same, for now an objective metaphysics (the ideas you are stuyding) must be carefully distinguished from a subjective metaphysics (the ideas you are thinking).

The functional substance and content of research is often emphasized at the expense of its formal structure, especially in the pragmatic cultures of the English-speaking West. Most Americans, for example, who are consciously or unconsciously under the spell of empirical science, think of research as the means of investigating an object of inquiry.[7] Research thus becomes, in this view, an object of secondary interest only, a way for the researcher to study the objects of primary interest to him. But this view, commendable as it is in science, is disastrous in librarianship, for research is the librarian's basic problem, not the means of solving his basic problem.

There are two approaches to research whenever it is employed for making specific studies or applications. It is without question an operational technology, a formal-physical toolbox, for the researchers themselves. It is those who do research that are attracted to its functions: they are the ones who are always abstracting, summarizing, and discussing its results, conclusions, and applications. But research can also be critically observed. In this case, research becomes a metaphysical object of primary interest to the observer, who is essentially a philosopher of research rather than a researcher. This is precisely the position of the librarian, whose major business is to attend the research interests of other people. He must therefore know what problem solving is; and that means concentration on the formal structure of inquiry, an emphasis on the philosophical aspect of methodology which includes (1) logic, or the ways of obtaining ideas and conclusions, and (2) epistemology, or the ways of interpreting ideas and conclusions.[8]

There are two views of librarianship, which correspond to the two dimensions of research. These are (1) the managerial view, and (2) the user view. The managerial view of librarianship is functional and materialistic in outlook, because it is based on the administrative control of physical resources, the informational instruments of particular library operations. These instruments include the specific actions of the librarian and other personnel, as well as the physical plant and contents of the library itself. Librarianship, in this view, is a kind of sophisticated household economics, the day-to-day business of running a store, which, like the corner delicatessen or the supermarket, requires administrative control because it is stocked with commodities and staffed with people. Those who espouse this view of librarianship tend to

emphasize the functional substance of research, which they interpret as a means of coping with operational "service problems."[9]

The user view of librarianship, conversely, is formalistic and teleological, because it aims at providing patrons with access to the metaphysical resources of information itself, not at supplying them with the physical instruments by means of which information is expressed. Librarianship, in this view, is an unorthodox form of management, the metaphysical management of ideas, which constitute the basic elements in the make-up of all knowledge and information; it is not the conventional management of things and people, such as books and the library staff, which are, after all, only the means of managing ideas. Librarianship is simply metaphysical orientation, a way of relating to the products and processes of the human mind, an orientation to ideas which obliges the librarian to master, not the functional content of specific research projects, but the noetic structure of inquiry, in order to properly attend the study interests of patrons. The problems of user access to the metaphysical realities of information are primary, more basic to librarianship than the secondary problems of administrative control over the physical instruments of informational expression. The former are firmly rooted in the professional function of the librarian specifically qua librarian, whereas the latter are derived from the administrative function of the librarian qua manager.

All of which plainly calls for a separation of the librarian's professional and administrative functions, something only rarely attempted by librarians or library educators.[10] But it has become an absolute necessity since World War II, which produced bumper crops of administrators in all of the Western cultures. Administration, like rhetoric in the

ancient world, has overgrown librarianship and library education like a creeping plant.[11] This is apparent in librarianship, where the librarian's professional and administrative functions are almost hopelessly confused, and blatantly obvious in library education, where the educational and administrative functions of the teacher should be carefully distinguished and must be disentangled. Why, for example, must administration courses be re-created in the librarian's own image and taught in the library school, like the cookbook courses in "Mathematics for the Businessman," when substantial offerings in both public and educational administration are already available in the university? Is there any reason why the aspiring library administrator should not learn to "swim with the big fish in their water?"[12] Administration is clearly the be-all, do-all, and end-all factotum of librarianship today. It is both end and means at once, the goal as well as the way to the goal. The librarian, who can no longer get ahead as a librarian, has turned to administration as the best way up, his route to the summit. But administration is also the librarian's way out of librarianship, for it leads to the top of the wrong mountain where there is no librarianship, only more administration. Today's myriads of administrator-librarians are more administrators than librarians by far, and far too many of them are not librarians at all. This worsening situation calls for a kind of corrective surgery, so that the malignant growth of administration can be removed from the body of librarianship and seen for what it is. If that were to happen, the students in our library schools might aspire to be librarians, instead of personnel managers, budget directors, clerks, statisticians, educators, politicians, or something else.[13]

The penchant also persists for equating research with scientific research, an equation that helps explain the inadequacy of research methodology as currently employed in libraries and taught in library schools.[14] It also creates the necessity of making a sharp distinction between science and librarianship. The difference lies in different approaches to information, which is the object of mastery in librarianship, but the means of mastering objects in science. Information consists of ideas (nonphysical forms), which are created in either of two ways: (1) abstractly (in the metaphysical antiworld of mind), or (2) concretely (in the physical world). Form is created abstractly in the mind through its contemplation of something physical by means of the senses (like an utterance of any kind by another person; or an observed object or process), or by reflection in which no sensation is present. It is important to realize, however, that no linguistic utterance has any inherent meaning: the meanings of language are conventional solely, not intrinsic. All of the meanings we think we see in the world come from us, not from the world: the physical world is absolutely void of meaning. We can "inform" the world, but only by creating the concrete material forms which, though meaningless in themselves, represent the metaphysical forms of the conceptual and imagistic meanings that exist only in minds. The physical and metaphysical worlds are distinct, as the Greeks believed, although we may argue (as Plato and Aristotle argued) about their precise relationship to one another. Each of these worlds is governed by its own conventions, and it is therefore a prodigious error to assume that the rules of play in physics are valid for the game of thought: no one can explain the "behavior" of ideas in terms of spece-time, for example, because thought pays no attention to the laws of physics. Without

exception, all of the relationships between the physical world of concrete objects and processes and the metaphysical antiworld of mind are conventional and arbitrary; and it therefore becomes the problem of every person who studies anything to keep his own ideas from getting all tangled up with the external world in whatever he is studying. That is the basic problem facing librarians and information scientists today. Ours is the heady philosophical task of unscrambling, no' just eggs, but three radically different kinds of eggs. We have gotten our own ideas all mixed up with the world, and with the ideas we are supposed to be studying, in the so-called "science" of information; and a terrific confusion of methodological and ontological realities must therefore be carefully sorted out before meaningful progress is possible.

Since information is a metaphysical subsistent (not a physical existent), it must be studied philosophically as a nonphysical object made of form (thought, ideas, knowledge, patternment, structure, relationships, etc.): it cannot be studied scientifically as a physical object made of matter.[15] This raises the whole issue of the relationship between form and matter in the human study of anything, and constitutes the basis of a new discipline which I have called logology--the business of understanding the logos of any ology.[16] This includes, among other things, an understanding of (1) the real nature of the actual object being studied, (2) the proper method for studying the object (which is always determined by the ontological properties of the object studied), (3) the goal (objective) to be achieved in the study of the object (the reason or purpose for which the object is studied), and (4) the way to the goal (the means of attaining the desired objective as the result of studying the object). No one can study anything without attempting to master it.

The goal of any study, therefore, will be the achievement of mastery over something; and ontologically speaking, this must be either (1) the mastery of nonphysical form (subsistents: thought, ideas, knowledge, information, etc.), or (2) the mastery of material substance (existents: physical objects and processes).

The relationship between form and matter constitutes the telus-mechus interface at its highest level of abstraction. It is simply this: when either form or matter is the object of study to be mastered, the other must function as the means of mastering it. In other words, when the telos (purpose) of study is to control something physical, as in science, the mechos (means) of control is metaphysical; but the means of control is physical in librarianship, where the objects of study and control are metaphysical. An understanding of this telus-mechus relationship is extremely important, for teleology (or idealism) and mechanism (or materialism) not only constitute the two main streams of Western thought but also show, more clearly than anything else, that the objects of study in librarianship and science are actualities of fundamentally different kinds that belong to completely different orders of reality.

The object of scientific study is always part of the physical universe. The method of science, which is determined by its material object(s) of study, is physical, consisting in the empirical referral of all scientific thinking to the physical referents of the natural order for verification through direct observation and testing. The goal (telic objective) of science, the reason for studying the natural order, is to manage nature--to acquire and exercise as much control as possible over physical circumstances. The way to the goal, the scientific means of mastering all sorts of physical conditions, is the creation of material

knowledge (physical concepts) about the universe.

The librarian's object of study is human knowledge, or more precisely, all of the metaphysical subsistents (immaterial forms) in the antiworld of the human mind. The method of librarianship, which is determined by its formal objects of study, is metaphysical: it is necessarily rationalistic and recognitive (perceptive), as in the humanities, because form must be present in the mind before its presence can be detected or created in the world. The librarian's goal, the reason for studying the antiworld of subsistents, is orientation to knowledge, the achievement of an optimal familiarity with thought in all its forms. It is the business of librarians to know their way around, and to help others find their way around, in the unsensed antiworld of metaphysical subsistents created by the mind.[17] The way to reach the goal, the librarian's means of orientation to thought, is the effective utilization of communicative instruments, which includes the entire physics of human expression, whether verbal, mathematical, artistic, behavioral, or whatever.

Librarianship, which is not a subject matter but a way of relating to subject matter, is a knowledge system based on access to nonphysical subsistents (information) by means of physical existents (informational instruments). However, science is also a knowledge system, but of a vastly different kind. A concise summary of the four points already discussed should therefore be helpful in further clarifying the important differences between the two.

1. The Object of Study.--Science studies matter (the physical realities of the universe); but the object of study in librarianship is form (the metaphysical realities of the mind).

2. The Method of Study.--The scientific method of study is empirical because its objects of study are the sensibles of physical experience; but librarianship must employ rationalistic methods because its metaphysical objects of study are the nonsensibles of thought which lie completely beyond the physics of experience.

3. The Object of Mastery.--Science aims at the management of matter (the physical conditions of the universe); but the librarian's goal is the management of form (the metaphysical products of the mind).

4. The Means of Mastery.--Form is the scientific means of managing matter; but matter is the librarian's means of managing form.

Science does not, indeed it cannot study knowledge (or any other metaphysical subsistent); but it generates knowledge in the process of studying the world. Science is the human art of making the kind of intellectual judgments about nature that can be (1) expressed as metaphysical propositions explaining physical phenomena, (2) verified by the experimental observation and testing of empirical data, and (3) implemented technologically as a means of controlling physical conditions. Scientific knowledge about the natural order is therefore instrumental to the control of nature, as originally stated by Francis Bacon (and accepted by scientists ever since): it is valued, not for its own sake, but for what it enables man to do in or to the universe. Thought is thus the hierodule of action in science, the best available means of bending nature to the will of man, in order (as Bacon says) to make his life on earth as pleasant and comfortable as possible.[18] And applied science, which is really applied knowledge (scientia), therefore builds its physical instrumentalities upon the metaphysical foundations of basic knowledge: it constructs physical technologies of action designed to implement the propositions about nature which are created by the theoreticians, and tested by the experimentalists, of basic science.[19]

Librarianship is the mirror image of all this. It is an unorthodox technology, to say the least, for it studies ideas (information), the metaphysical subsistents that lie beyond the reach of science in the terra infirma of philosophy, and reduces the physical existents of nature to its means of dealing with them. Librarianship is the art of providing orientation to knowledge--a service that constitutes its entire product from first to last, the only legitimate contribution it can make to anyone under any circumstances; and the physics of human expression, which includes every molecule in the entire physical dimension of librarianship, is merely the means of providing it. The physical book and everything the librarian does, for example, are only the instruments of information (ideas), as are tapes, maps, blueprints, card files, indexes, data banks, and microforms. The metaphysical ghosts of information thus lurk behind the physical machinery of human communications, ghosts that are distinct and separate from the mechanics of expression. But these ghosts, which are utterly inaccessible to science, constitute the fundamental problem of librarianship; and there is no possibility of ever creating a science (physical concepts) of information (metaphysical subsistents) because science can say nothing whatever--whether positive, neutral, or negative--about metaphysical questions.[20] Librarianship, which may be described as the management of human intellection, is a metaphysical technology of knowing based on philosophy (knowledge of subsistents); it is not a physical technology of action based on science (knowledge of existents). Librarianship, in other words, is the very antithesis of science as a knowledge system.

Summary and Conclusions

The first thing occurring to the Greeks when they studied anything

was the distinction between its physics and its metaphysics. That distinction, however, is often the last thing that occurs to the modern scholar, because metaphysics has become a four-letter word in the vocabulary of empirical positivism. But librarianship is nevertheless a metaphysics, not a physics; and positivism itself has been discredited because its verifiability principle is a metaphysical presupposition that cannot be verified. This study therefore bases the following conclusions on the ancient distinction between physics and metaphysics, a distinction which, though shot up often enough, has never been shot down.[21]

1. Research is critical inquiry of any kind, not a specific kind of critical inquiry. It possesses both functional content, which appeals mostly to those who are doing the research, and formal structure, which mainly attracts the observers of research.

2. Librarians are essentially the philosophers of research, not researchers. They must therefore know the structure of inquiry, because their primary function is to attend the research interests of other people. The administrative and scholarly functions of librarians, furthermore, are merely instrumental to their primary function.

3. Librarianship is not a subject matter, but a way of finding one's way about in the various subject matters. The librarian, therefore, cannot simply appropriate the research methodologies of other disciplines, which have largely been designed to investigate the subject matters of the liberal arts curriculum. Librarianship must devise its own research strategies, methodologies that fit its actual objects of study, as well as the librarian's objectives and methods of mastery over those objects.

4. Librarianship is an unorthodox knowledge system from the scientific point of view. Librarians in a world of science are like Paul and Silas in the non-Christian world, of whom the Jews remarked: "These [men] that have turned the world upside down are come hither also." (Acts 17:6) Librarians do indeed invert the world of science, because librarianship is the mirror obverse of science as a knowledge system; it is a technology of knowing based on philosophy, not a scientific technology of action.

5. Information can be studied critically; but no one, not even the scientist, can study it scientifically.

NOTES

to

The Objects and Methods of Study

[1]The operational word in this concept of research is "critical." The librarian must ultimately be interested in all aspects of inquiry, which occurs whenever the human intelligence consciously contemplates anything at all, either by means of the senses or by reflection. But "critical" inquiry, which alone qualifies as research, differs from the popular forms of inquiry in its sophisticated and systematic approach to problem solving. On necessary and sufficient conditions see Abraham Kaplan, "The Age of the Symbol--a Philosophy of Library Education," in Don R. Swanson, ed., The Intellectual Foundations of Library Education ... (Chicago: University of Chicago Press, 1965), 10; and A. Pap, "Does Science Have Metaphysical Presuppositions?" in H. Feigl and M. Broadbeck, eds., Readings in the Philosophy of Science (New York: Appleton-Century-Crofts, 1953), 26-27.

[2]See B. A. G. Fuller, History of Greek Philosophy (New York: Greenwood Press, 1968), I, 84-85, 94-95, 117.

[3]See W. S. and M. L. Sahakian, Realms of Philosophy (Cambridge, Mass.: Schenkman, 1965), 299. Ta Physika and Ta Meta Ta Physika are the names selected by Aristotle's editor, Andronicus of Rhodes, to describe Aristotle's Physics and Metaphysics respectively. The fiction that the latter title describes only the bibliographical arrangement of the Metaphysics after the Physics is probably a modern slander on this conscientious ancient editor. Rhodes was an Aristotelian stronghold, where Andronicus systematically discussed not only the order of Aristotle's works but their substance, and wrote an important biography of the man himself. Ta Meta Ta Physika means, quite literally, "The Nonphysical Correlates of Physical Things," a title that (1) accurately describes the subject matter of Aristotle's Metaphysics, (2) restricts metaphysical speculation to the unsensed realities of this world order, and (3) excludes eschatology from Greek thought, because it treats the unsensed realities of Near Eastern supernaturalism. For the pertinent evidence on Andronicus of Rhodes see I. Düring, Aristotle in the Ancient Biographical Tradition ("Studia Graeca et Latina Gothoburgensia," 5; Göteborg: Elanders Boktrycheri Aktielbolag, 1957), 412-25.

[4]The mind detects both phainomena and noumena, the former by means of the senses and the latter apart from them. Phainomenon, which describes any visible reality, is the neuter singular present passive participle of the Greek verb phaino, "play light on," as with a torch: the word reveals the pronounced visual-tactile bias of the Greeks, who generalized it to connote any sensible. Noumenon, on the other hand, is the parallel participle from noeo, which describes any element of thought internal to the mind (nous).

[5]P. T. Matthews, The Nuclear Apple; Recent Discoveries in Fundamental Physics (London: Chatto & Windus, 1971), 141-42.

[6]Form is "that by which a thing is what it is, that by which a man is a man, a dog a dog, and a rose bush a rose bush," W. E. Carlo, Philosophy, Science, and Knowledge (Milwaukee: Bruce, 1967), 32-33. Logos refers to the inward structure or noetic rationale of anything, whereas ergon, the Greek word for "function," has a physical referent and is actually cognate with words like "work," "Werk," "energy," etc.

[7]The recent U.L.A. panel on research exemplifies this, Utah Libraries, 19 (Spring, 1976), 34-50. Three of the four panelists are clearly functionalists, as revealed by the empirical presuppositions of virtually all their statements about research. The following statements are representative of the panelists themselves and thoroughly typical of the library profession at large. Purcell: "All ... information services face practical problems for which [administrative] decisions must be made.... Research provides a means by which solid evidence can be acquired upon which such decisions can be based," ibid., 35. Taylor: "What has scientific research got to do with library science?... Research can be undertaken in the library and used to solve its problems.... Libraries need research done, but the results are not being used by the administrators," ibid., 41. Marchant: "I am talking about information useful in improving current library operations, a strictly pragmatic approach [to research].... Librarians [must] move in the dual direction of applying relevant research carried out by others and using research techniques in solving their own problems.... These [eleven research recommendations] are a few that come to my empirical mind," ibid., 48-50. The only formalist on the panel is the humanistic Mogren: "Librarianship is on the philosophical side.... We cannot depend on scientific proof ... when we are working with ... information and ... people. Our research must take sides with the humanists and the philosophers.... 'The humanistic approach is the only professional attitude tenable for librarians,'" ibid., 47, citing R. Harwell, "The Magic Triad," Wilson Library Bulletin, 34 (1960), 656.

[8]On philosophy as a trinity of value theory, metaphysics, and methodology (which includes both logic and epistemology), see W. P. Montague, The Ways of Knowing; or the Methods of Philosophy (London: G. Allen & Unwin, 1953), 31. See also A. W. Munk, "The Philosophical Enterprise," Pacific Philosophy Forum, 6 (1967), 23-36.

[9]Research is not a way of stirring the physics of library operations without disturbing the metaphysics of librarianship. But Waples goes too far, perhaps, in rejecting administrative "service problems" as proper objects of research, because "the distinction between research and service studies," as he himself admits, is only "a matter of degree," D. Waples and R. Tyler, Research Methods and Teachers' Problems (New York: Macmillan, 1930), 15, and cf. 1-31. This entire monograph is based on the distinction between service studies and "scientific" research in education, a distinction that parallels similar differences in the practice of librarianship. Studies in the librarianship of his day were "mostly of service problems," D. Waples, Investigating Library Problems

(Chicago: Univ. of Chicago Press, 1939), 4. The managerial view of librarianship, which is interminably plagued with such problems, is based squarely on the administrative function of the librarian. It is derived from L. R. Wilson's strong insistence that librarianship is a social institution because it was invented by society.

[10]Such a separation is occasionally advocated, however, as in Ralph M. Edwards, "The Management of Libraries and the Professional Functions of Librarians," Library Quarterly, 45 (1975), 150-60.

[11]On the vigorous spread of ancient rhetoric see H. Nibley, "Victoriosa Loquacitas: the Rise of Rhetoric and the Decline of Everything Else," Western Speech, 20 (1956), 57-82. The current spread of administration has much in common with the Second Sophistic described by Nibley. The reader must see the parallels for himself, however, as the focus of Nibley's article is entirely on the ancient scene.

[12]A question posed to me recently by J. R. Beeson, Head Librarian at the Orem Public Library, Orem, Utah. Beeson pointed out that his greatest need, administratively speaking, is to understand the workings of the municipal bureaucracy he must deal with every day, the very thing the university's courses in public administration already provide.

[13]There are signs of disenchantment with administration among some librarians, as in "Library Administrators: Time to Show Them the Door?" Wilson Library Bulletin, 51 (1977), 636-38. Even participative management, which implements in libraries the "industrial democracy" developed in profit-seeking organizations, is a failure in at least seven countries, including the United States, according to James S. Larson, "Participative Management: Why It Has Failed," IPMA News, July, 1977, 2-4. The librarian's only alternative to administration as an avenue of success is library education, which is another way out of librarianship.

[14]"Research methodology as now taught in most library schools is inadequate," according to Herbert S. White, in a paper delivered at the A.A.L.S. Annual Conference in Washington, D. C., 28 January 1977, entitled "Some Measurements of the Impact of the Rapid Growth of Library Doctoral Programs." This paper, which is co-authored by Karen Hasenjager, has been accepted for publication in College and Research Libraries, probably in 1978. White also indicates that the polarization of (1) library educators and (2) practitioners (librarians/administrators) continues to deepen, not to decrease.

[15]On the philosophical distinction between existence and subsistence, see R. F. Piper and P. W. Ward, The Fields and Methods of Knowledge ... (New York: Knopf, 1933), 178-79.

[16]See H. Curtis Wright, "The Professionalization of American Librarianship," Utah Libraries, 18 (Spring, 1975), 29-30.

[17]Cf. Pierce Butler, "The Bibliographical Function of the Library," Journal of Cataloging and Classification, 9 (1953), 7: "Bibliography is the systematic process by which civilized man finds his way about in the world of books that he created." Cf. also a profounder philosophical statement along similar lines in Wilfrid Sellars, "Philosophy and the Scientific Image of Man," chapter one of his Science, Perception and Reality (London: R. & K. Paul, 1963), 1-40.

[18]See E. A. Burtt, ed., The English Philosophers From Bacon to Mill (New York: Random House, 1939), 13: "I would address one general admonition to all: that they consider what are the true ends of knowledge, and that they seek it ... for the benefit and use of life." Cf. ibid., xiv-xv, xvii, xx, 28, 32, 38, etc. Similar statements from most of the empirical philosophers after Bacon lead directly into the modern scientific doctrine of the instrumentality of knowledge. This doctrine has become so potent, as a matter of fact, that it often denies "the relevance, if not the possibility, of non-empirical, non-instrumental knowledge," C. R. Dechert, "Cybernetics and the Human Person," International Philosophical Quarterly, 5 (1965), 32.

[19]On the relationship of metaphysics to science, the best source I know of is still the classic statement of E. A. Burtt, The Metaphysical Foundations of Modern Science (Garden City, N.Y.: Doubleday, 1954).

[20]Cf. Bacon's scientific attitude: "Matter rather than forms should be the object of our attention ...; for forms are figments of the human mind," Burtt, ed., The English Philosophers From Bacon to Mill, 38.

[21]On the demise of positivism see A. W. Munk, "The Failure of Anti-metaphysicians," Pacific Philosophy Forum, 6 (1967), 33-36; G. Bergmann, The Metaphysics of Logical Positivism (New York: Longmans, Green, 1954), passim; "Evaluation of Logical Positivism," in W. S. and M. L. Sahakian, Realms of Philosophy (Cambridge, Mass.: Schenkman, 1965), 431-34; R. L. Purtill, Logical Thinking (New York: Harper & Row, 1972), 141-43; and my own remarks in Utah Libraries, 19 (Spring, 1976), 28-29. Cf. F. H. Bradley, Appearance and Reality (New York: Macmillan, 1893), 1-2, where the anti-metaphysician is described as "a brother metaphysician with a rival theory of first principles." For the Greek distinction between physical matter and metaphysical form see W. K. C. Guthrie, The Greek Philosophers From Thales to Aristotle (New York: Harper & Row, 1960), 21. On referring to the Greeks in methodological matters see J. Maritain, Distinguish to Unite; or the Degrees of Knowledge, tr. G. B. Phelan (New York: C. Scribner's Sons, 1959), xiv: "When we consult the ancients, we do so because we want to hark back to a freshness of vision that is lost today."